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ABSTRACT

Material relating to technical and vocational education in Ontario and Canada is either difficult to locate or simply not available. A short series of generalizations can be supported by the limited number of papers available and by American studies located by a relatively cursory search of the ERIC database. The absence of adequate, current databases, the increasingly rapid changes in economic conditions and technology, and the changing character of the work force make the task of producing reasonable, accurate projections of labor demand extremely difficult. The rapid growth and use of high technology is likely to reduce the skill requirements of many jobs and thus reduce the demand for many skilled occupations. The changing nature of work will place a higher premium on an education that emphasizes various thinking and interpersonal skills than specific skill training. Apprenticeships and employer-provided training programs continue to be very limited in Canada. Continuing education systems are essential to allow individuals to train, retrain, and upgrade throughout their entire working lives. In planning vocational and technical education, special attention should be given to the needs of small businesses that employ about half of the work force and to the provision of entrepreneurship education. (YLB)

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VOCATIONAL AND TECHNICAL EDUCATION: CURRENT TRENDS AND FUTURE PROSPECTS

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Research Report 84-03

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VOCATIONAL AND TECHNICAL EDUCATION: CURRENT TRENDS AND FUTURE PROSPECTS

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The objectives of this literature review were to document current and future trends in secondary-level technical and vocational education in Ontario, Canada and the United States. Given the deadline for this report it was not possible to meet all of these objectives.

Material relating to technical and vocational education in Ontario and Canada was either difficult to locate or simply not available. A search of the ONTERIS data base, for example, turned up no references to these topics and those papers identified by the librarian at O.I.S.E. were largely American or out-of-date. The Ministry of Education has apparently produced no documents related to this topic.

This report, therefore, is based on the limited number of papers listed in the references section of this document. It relies heavily on American studies located by a relatively cursory search of the ERIC data base plus material available in our own professional library.

Rather than provide a summary of the contents of each of the papers reviewed, this report will simply list a short series of generalizations which seem to be supported by the literature, along with references and brief comments.

1. Despite a growing technical sophistication in the area, it is currently not possible to predict vocational or technical skill demands with any confidence, especially over periods exceeding two years and for particular localities. This capacity is especially weak in Canada. (Rugg, E.A., 1983, Parliamentary Task Force, 1981)

The absence of adequate, current data bases, the increasingly rapid changes in economic conditions and technology and the changing character of the work force all make the task of producing reasonable accurate projections of labour demand extremely difficult. Since the potential for future employ-

ment depends upon the balance between supply and demand and since estimating the supply of labour by occupations is even less adequate than assessing demand, the projection of potential future employment for most non-professional occupations can be done only with large margins of error.

2. *In general, it appears that most employment growth will be for occupations that require little or no training beyond high school. Although the number of high technology jobs will increase quickly in the coming decades, the contribution of these jobs to total employment will be quite small.* (Levin and Rumberger, 1983)

There is apparently a widespread misconception that, because the rate of increase in high technology jobs is very rapid, most of the new jobs created by 1990 will be in this area. In fact, U.S. predictions indicate that high technology occupations, as a group, will make up only 7 percent of all new jobs created between 1980 and 1990. In addition, the rapid growth and use of high technology is likely to reduce the skill requirements of many jobs rather than increase them.

The application of high technology in both office and plant will also continue to reduce the demand for many skilled occupations such as machinists and draftsmen. The disappearance of such occupations through word-processing techniques, robotics, computer-assisted design and computer-assisted manufacture will contribute to an employment rate that is predicted to remain high, around 8%, for the remainder of the decade.

3. *Repeated surveys of employers indicate that, for most low skill-level entry jobs, employers are looking for literacy, interpersonal skills, adaptability, willingness to learn and good attitudes rather than specific technical or vocational training.* (Wilms, 1984; De Bavoise, 1982)

The basic problem for educators at the secondary level is to determine the relative emphasis that should be given to specific skill training as opposed to a more liberal education emphasizing various thinking and interpersonal skills. The changing nature of work and the workplace will, according to several authors, place a premium on the ability to adapt, to solve problems, to get along with others and to communicate effectively.

Apprenticeships and employer-provided training programs continue to be very limited in Canada. (Parliamentary Task Force, 1981)

Unlike Europeon Countries, Canada has not had a good record in industrial and on-the-job training. Some evidence indicates that less than 20% of Canadian industry provides any substantial training on the job.

5. *It seems clear that there will be a continuing and growing need for re-training.* (Parliamentary Task Force, 1981; Levin & Rumberger, 1983)

With rapidly developing technology, it is essential to have continuing education systems where individuals can train, retrain and upgrade throughout their entire working lives. In addition, a special educational effort will be necessary for the large number of functionally illiterate Canadians, many of whom are unemployed.

6. *Small businesses employ about half of the nations' workforce and provide four fifths of the new jobs created in the private sector.* (Wilms, 1984; Greenwood, 1981)

Special attention needs to be given, in planning vocational and technical programs, to the needs of small firms. There may also be some merit in providing the kind of education that facilitates students becoming entrepreneurs.

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